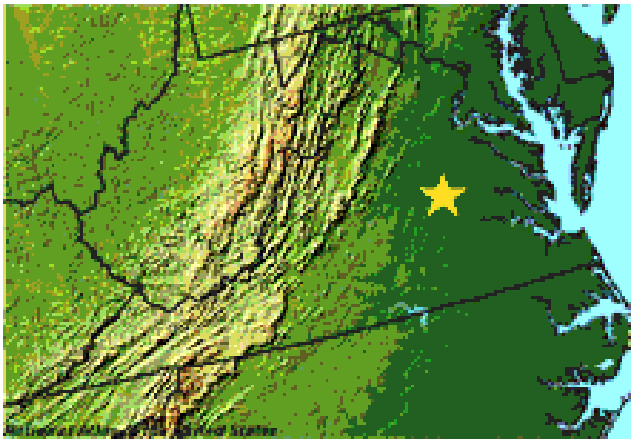
V-REMS
Virginia Regional
Environmental Management System

Virginia Regional Environmental Management System
Final Report



July 2004

Defense Supply Center Richmond
Virginia Department of Environmental Quality
City of Richmond
Chesterfield County, Virginia

Foreword

Good relationships with host or "gateway" communities surrounding U.S. Department of Defense (DoD) facilities are essential for the long-term viability of the national environmental mission. The rationale is simple: if we do not understand the priorities of our host communities and other stakeholders, we cannot plan or execute mission activities to address them. The Virginia Regional EMS (V-REMS) pilot project has clearly demonstrated the value of good communication as a tool to build mutual understanding and trust, and for transforming sometimes "strained" community-facility relationships into productive, mission-supporting, and environmentally beneficial partnerships. The lessons we have learned in Virginia at the Defense Supply Center Richmond (DSCR), the Virginia Department of Environmental Quality (DEQ), in Chesterfield County, and in the City of Richmond are fundamental to good government -- government that earns the confidence of the public through the actions it takes and the results it produces. We are already taking steps to incorporate the lessons learned from the V-REMS pilot into strategic planning and policy development at other federal agencies and regions across Virginia and around the nation. We will continue to partner within the Administration to ensure the V-REMS pilot and its results are well communicated across the Federal government.

– Alex Beehler, Deputy Undersecretary of Defense
Installations and Environment/Environmental Quality

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Executive Summary

Today's complex regulatory environment and pressures for sustainable activity create new challenges for the public sector. Environmental management is now more than the responsibility of any one organization or government agency. Federal, state and local governments are developing innovative approaches to improve their environmental performance and working in collaboration to meet similar goals.

One such approach is an Environmental Management System (EMS), a "best practices" tool that enables all levels of government, especially federal facilities, to manage their environmental impacts. EMS allows an organization to identify today's realities and risks, and to implement realistic solutions in an effective manner. It also provides a common framework and language for partners to discuss environmental issues. By using an EMS, any public sector jurisdiction can integrate environmental improvements into its daily operations. Working together, public entities can go one step further and use EMS to identify and address cross boundary issues and concerns.

In Virginia, the Defense Supply Center Richmond (DSCR), community stakeholders and regulated and other public entities use EMS to address stakeholder relationships and build a partnership to improve the environment of the greater Richmond area. The innovative program called V-REMS (for the Virginia Regional Environmental Management System) is a multi-level partnership between a federal facility, the state environmental agency and two local governments that gives its participants the opportunity to coordinate environmental activities from a regional perspective. The first program of its kind in the nation, V-REMS began a nine-month pilot in March 2003 to promote constructive communication between these different levels of government.

Sponsored by the U.S. Department of Defense (DoD) and the White House Council on Environmental Quality (CEQ), V-REMS has helped its participants to significantly strengthen the lines of communication between themselves and their stakeholders by sharing the many lessons learned during the process of developing and implementing EMSs. Historically, concerns were raised by stakeholders that required improved communication and common approaches to help solve cross boundary problems and overcome common barriers. Today, stakeholder issues are addressed by and between the V-REMS partners to better leverage resources and promote solutions. The partners include the Defense Supply Center Richmond (DSCR), Virginia Department of Environmental Quality (VA DEQ), City of Richmond and Chesterfield County.

Over the last nine months, the V-REMS partners worked closely to apply a quality management process for specific environmental media issues to ensure responsible environmental behavior and consistent management of environmental issues for each partner and across the region. Each established and accomplished many goals and realized a number of benefits.

One of the program's largest accomplishments was improved communication channels between the partners at their different levels of government and the creation of better dialogue about environmental issues with host communities, regulators, commissioners and advisory boards. The strong public sector partnerships developed in Virginia also gave partners a greater understanding and appreciation of how each partner impacts their regional environment.

Another important accomplishment of the program was the much-improved trust that the partners gained from their communities and stakeholders by demonstrating that significant efforts were being taken to successfully manage environmental responsibilities and prevent new environmental security risks. Stakeholder confidence in the public sector's environmental stewardship was greatly strengthened. Lastly, the V-REMS partnership provided a way for partners to share EMS best practices and leverage resources and assets across the region.

In the later months of this program, V-REMS participants recognized that the program could not only be replicated in other regions, but also expanded in Virginia's capital region. Due to the program's strong success, DSCR has provided the funding to continue activities for an additional two-year period. In addition, jurisdictions around the Commonwealth of Virginia have already expressed an interest in joining the V-REMS partnership. (note: V-REMS Phase II began in January 2004.)

This final report details the numerous accomplishments of the V-REMS pilot program. It also describes the many lessons learned and positive benefits that participants gained from joining in this national model for integration and partnership building.

The report provides background on V-REMS and EMS and explains the process used and timeline followed to establish the program and describes the numerous benefits that each program participant, and the region as a whole, have experienced due to V-REMS. The report also explains why this program serves as a great model for replication in other U.S. regions and provides a step-by-step guide for how to replicate V-REMS elsewhere. In addition, this report names many of the keys to success and barriers that the partners faced. Information about each program participant and a matrix showing their performance measures can be found in the Appendices.

Introduction

Sponsored by the U.S. Department of Defense (DoD) and the White House Council on Environmental Quality (CEQ), The Virginia Regional Environmental Management System (V-REMS) has helped its participants to significantly strengthen the lines of communication between themselves and their stakeholders by sharing the many lessons learned during the process of developing and implementing EMSs. Historically, concerns were raised by stakeholders that required improved communication and common approaches to help solve cross boundary problems and overcome common barriers. Today, stakeholder issues are addressed by and between the V-REMS partners to better leverage resources and promote solutions. The partners include the Defense Supply Center Richmond (DSCR), Virginia Department of Environmental Quality (VA DEQ), City of Richmond and Chesterfield County.

Over the last nine months, the V-REMS partners worked closely to apply a quality management process for specific environmental media issues to ensure responsible environmental behavior and consistent management of environmental issues for each partner and across the region. Each established and accomplished many goals and realized a number of benefits.

The intersection of a number of synergies contributed to the development of V-REMS. CEQ assumed a leadership role in successfully promoting Environmental Management System (EMS) approaches under Executive Order 13148 - *Greening the Government through Leadership in Environmental Management.* The Department of Defense (DoD) was committed to supporting that initiative and to improving the nature of communication in host or "gateway" communities and their surrounding federal installations. Based on past experiences, the DSCR wanted to be proactive in preventing and solving environmental problems and in improving their dialogue with their neighbors and regulators. The Commonwealth of Virginia's Department of Environmental Quality (DEQ) was eager to test some innovative solutions for improving stakeholder involvement in environmental decisions, for leveraging public entity resources across the state, and for supporting EMS development and implementation. Local governments, including the City of Richmond and Chesterfield County, learned about the value of EMSs and how to implement them in a program sponsored by the Center for Organizational and Technological Advancement (COTA) at Virginia Tech. The local governments were anxious to leverage resources with others who had implemented EMSs and create innovative approaches to finding solutions to their environmental issues. *All* partners wanted to participate in building a region-wide and innovative approach for setting short- and long-term individual and regional goals using the EMS process in order to better their communities.

Project Process

The DSCR, the DoD, and the Commonwealth of Virginia made initial contacts with proposed partners and developed a conceptual framework for an EMS regional approach to improve stakeholder relationships. The CEQ helped launch an initiative that brought the organizations together, developed a common mission and operating principles, and provided structure. A neutral third party facilitator, the Global Environment & Technology Foundation (GETF), was selected based on their broad experience working with Virginia public entities, federal and other state organizations, and with EMS implementation.

Throughout the V-REMS program, partners used an EMS approach to (1) identify a common list of stakeholders and understand different levels of communication; (2) establish communication objectives and measurable targets, and develop materials to accomplish their project objectives; (3) accept a variety of roles and responsibilities in communicating with stakeholders; and (4) monitor progress, document and communicate to partnering organizations, project sponsors and other interested public entities in the state and nationwide. An EMS provides organizations–both public and private–a structured approach to manage environmental responsibilities. Based on the well-known model of "Plan, Do, Check, and Act," an EMS enhances each organization's ability to quantify environmental performance improvements, prevent pollution, conserve energy and natural resources, and apply lessons learned in a continuous improvement process. Public entities have been using EMSs since 1996 to identify and communicate with strategic stakeholders, and to incorporate strong operational controls and best management practices into their existing job descriptions and work instructions.

V-REMS Benefits:

- Reduced water usage by 15%
- Reduced fuel usage and vehicle air emissions
- Improved relationships with local community members.

Initially, the partners (DSCR, Virginia DEQ, Chesterfield County and the City of Richmond), held a scoping meeting where for the first time each organization had a chance to meet on "neutral" ground. The agenda for the meeting was set to only identify what issues were important to each attendee from a *regional perspective*. The idea was to focus everyone from the insular to improving their greater surroundings – and to get the acceptance of all attendees that they would be committed to participating throughout the process.

As a result of the commitment from the partners to focus on regional environmental issues using an EMS process, the Virginia Regional EMS (V-REMS) was born. For the first nine months of the V-REMS, partners met quarterly and held monthly telephone conference calls. A secure password-protected virtual private office (VPO) Intranet site was established to facilitate information exchange, EMS document sharing and lessons learned–and to enable the joint preparation of press releases and outreach presentations.

As the program matured, the partners developed and clarified performance indicators and development a measurement tool – the V-REMS Performance Indicator Worksheet – to track results. See appendix 2.

Throughout the first nine months of the program, partners jointly prepared and delivered numerous presentations around the State of Virginia and at other national forums. In addition, partners, especially the VA DEQ, promoted the inclusion of additional partners in the V-REMS network especially other neighboring DOD facilities and their gateway communities.

Particularly worth noting is the fact that the program began with a very fluid idea of how to accomplish the program goals. Partners knew generally *what* they wanted to accomplish, but little about *how* to achieve those accomplishments. As partners discussed and worked out their vision for what the partnership could accomplish, the V-REMS program took on a more defined shape and scope, with clearer goals. The fact that both regulators and their communities were involved throughout the process helped to establish trust, foster dialogue, and generate

enthusiasm, as well as a strong sense of opportunity and control, and a greater understanding of the potential individual and collective benefits of their mission. Other drivers included:

- Attraction to the regional nature of this partnership and the ability to leverage resources, opportunities, and solutions.
- Ability for all partners to work together with stakeholders to build consensus and provide consistent approaches and solutions.
- Recognition that regional problems often require regional solutions.
- Common EMS fencelines (e.g., Fleet Maintenance), which provided an opportunity to examine the problems fleets face, including environmental impacts and solutions and the need for common goals.
- Opportunity for face-to-face interaction between partners and stakeholders.
- Partners all received the same EMS training through Virginia Tech's COTA program, which could lead to common implementation goals.
- Partners shared common environmental resources (i.e. James River, transportation segments, etc).
- Partnership allowed for future regulatory thinking for how to approach other state and regional organizations.

Among the keys to success in EMS implementation is recognizing that, initially, the scope of the program – where the EMS will be implemented–should be manageable. The strategy of starting with an appropriate-sized fenceline and continuing to build in additional departments and divisions as the EMS becomes institutionalized has worked most successfully in the public sector. This building process develops a good core of EMS experts, realizes organizational benefits almost immediately, establishes replicable procedures and processes, and allows the organization to apply lessons learned and continual improvement.

Benefits

The V-REMS partnership has been a successful project with eager participants and interest from other DOD groups to join. This is the first partnership of its kind in the nation where the Department of Defense, state, and local governments cooperate to improve the environment in their respective communities and in their region using EMSs. One of the greatest benefits of this partnership is that partners accomplished their goal of developing better relationships with their stakeholders.

Benefits as a result from the V-REMS partnership have already been identified. As with any new initiative, many of the benefits are new and not easily justifiable. However, the partners developed *The V-REMS Performance Indicator Worksheet* (see Appendix 2) which provides a description of the EMS Milestones and Benefits for each Partner during the nine-month period. In addition to individual benefits, there were a number of collective "on the ground" highlights which included:

- Reduced fleet size by 33 vehicles (including 19 SUVs)
- Reduced vehicle miles traveled by 456,399 miles
- Bought 10 energy efficient vehicles
- Reduced water usage by 15%

- Reduced fuel usage and air emissions from vehicles
- Reduced sulfur emissions from 100 tons to 7 tons
- Set up an underground storage tank (UST) and above-ground storage tank (AST) database on a GIS system for site identification
- Removed (2) 1000 gallon USTs and installed (1) 500 gallon AST
- Installed 2 oil/water separators to catch runoff
- Switched to environmentally friendly parts washer
- Installed secure containment area for batteries
- Enhanced land acquisition policy to include detailed ESA review to help reduce environmental liability issues
- Labeled storm drains
- Reduced mercury products
- Recycled fluorescent tubes
- Purchased environmentally-friendly "green tip" tubes

A key element with an EMS is developing an outreach component. Many public entities by virtue of their charter interact with the public on a daily basis. As part of developing their own individual EMS and as a partner in V-REMS, many of the partners attend or were asked to attend to present on the V-REMS concept. An example of the outreach events include:

- Attended the Virginia Air/Water/Waste Board Meeting to present V-REMS.
- Attended the DoD Colloquium with EPA Region 3 states to present V-REMS.
- Attended the Environmental Council of States (ECOS) meeting to present V-REMS.
- DSCR spoke at the Chesterfield P2 awards ceremony.
- VA DEQ has been asked by the Federal Environmental Executive's office and Environmental Council of States (ECOS) to participate in a program to promote coordination between state and federal agencies conducting EMS activities.
- VA DEQ has been asked to participate in ECOS' national symposium in Washington, DC.
- DSCR presented at the National Defense Industries Forum in San Diego.

Replicability

It is clear from the benefits accrued by each of the partners, and the lessons learned, that a multi-jurisdictional partnership (Department of Defense (federal), State, County, City and County public entities) can use the EMS process to positively affect stakeholder relationships and environmental performance. There is no doubt that the model used in the V-REMS program can be replicated. Partners have learned a number of success measures for other defense installations and communities to employ.

> *"Other DoD activities will soon be looking at DSCR as the model to follow for how this should be done."*
>
> John Paul Woodley, former Assistant Deputy Under Secretary of Defense, Installations & Environment

Based on the quantitative and qualitative data collected during the nine-month program, the V-REMS process has proven worthwhile. There is a commitment to continue the V-REMS

program; each partner found individual value and collective potential. Each wants a longer-term commitment and additional regional partners to address future and broader environmental and stakeholder objectives that the V-REMS process can continue to address successfully.

In Appendix D there is a summary of the nine-month V-REMS activities. Each section includes the drivers, activities, conclusions, and keys to success experienced by the partners. More complete information, samples of materials used for outreach, press releases, EMS documentation, etc. can be found on the PEER Center website at www.peercenter.net, or by calling any one of the founding partners listed in this report as identified in Appendix C. The following chart is a V-REMS timeline.

Conclusion

Regular and frequent communication has been critical to the success of this program. The program promoted better understanding, familiarity, and trust in a short period of time. Partners reported that the monthly conference calls initially allowed them to explore common ground: how/what/where their EMS was moving forward. As they acknowledged each others' activities, the opportunities increased to exchange knowledge, status, lessons learned, and keys to success. There is commitment to maintain and expand the number of participants in the dialogue on a frequent and regular basis during the next phases of EMS activities.

Partners want to continue their outreach to broadcast the success of the V-REMS program, and describe and disseminate information regarding ways in which these EMS efforts are affecting environmental improvement and strong management in the region. V-REMS will continue to be a vehicle for increased interaction with the press, and for presentations at EMS information sessions, environmental fairs, departmental briefings, regulatory and citizen boards, and at regional, state and national meetings. Jimmy Parrish of DSCR remarks, "this partnership will be watched closely within the Department of Defense and can be replicated across the country."

The partnership generated a huge amount of energy, synergy among partners, and motivation to move ahead on specific environmental and stakeholder challenges at a pace that exceeded individuals' expectations. There was greater visioning power – i.e., the EMS partners' process could accomplish more through DOD, state, county and local synergy – than any individual partner could offer on its own. The partners realized that the return on the investment through leveraging was powerful.

Through EMS, early warning signs of potential problems could be more readily detected and addressed prior to becoming critical issues and leading to negative consequences. Specific regulatory actions (e.g., permitting) were identified early on in the process. Each partner was better able to define its role in time-critical and sensitive issues and processes that needed to be established over the long-term.

Although there was a qualitative sense that improvements were being made, partners quickly realized the importance of acquiring quantitative data to help determine the success of the partnership, manage stakeholder issues and realize environmental benefits. In the coming months, more emphasis will be placed on developing the metrics and getting the results from a quantitative perspective. However, positive change in the relationship between DSCR and the

other partners has provided immeasurable value to the operations and its place as a DOD facility within the community.

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APPENDIX A

REPLICATING THE PROGRAM

PART 1: FORMING THE PARTNERSHIP

DRIVERS:

Understanding the Federal Drivers

- CEQ/DoD responded to Executive Orders, Innovations, Leadership Role for Federal Installations.
- National replicability was needed.
- DSCR wanted improved stakeholder relationships in a regional partnership approach.
- DSCR saw the value of the EMS as a tool for partnership and stakeholder interaction.

Understanding the State Drivers

- Building on EMS resources in the state, DEQ, VA Tech (COTA), and public entities to participate in national EMS programs.
- State-wide replicability was needed.
- Regional environmental issues are cross-boundary issues that can best be addressed by a consortium of those who contribute to the environmental impacts.

Understanding the Municipal Drivers

- Strong communication between regulated entities and regulators.
- Leveraging resources and capacity.
- Building on EMS training and institutionalization of EMS throughout organizations.

ACTIVITIES IN THIS PHASE:

Joint Activities

- DSCR hosted a kickoff meeting.
- Developed vision and mission statements.
- Issued press release announcing V-REMS formation and partners.
- Staff in similar positions from each organization (e.g., press officials) met to coordinate activities.
- Identified key stakeholders.
- Identified barriers.
- Created a one page face sheet for awareness and outreach.
- Discussed options to overcome barriers.
- Agreed on monthly conference calls and quarterly face-to-face meeting schedule.

- Committed to joint presentations to elected officials, appointed Boards, local stakeholders (including citizen groups, etc.).

Individual Activities

- Conducted outreach.
- Made presentations to senior elected officials, Boards, and other management personnel.
- Agreed to identify and share information about environmental priorities.
- Agreed to identify specific environmental problems and look for assistance from V-REMS partners and from the Public Entity EMS Resource Center (PEER Center) network.
- Posted EMS tools, materials, procedures, documents, etc. on the VREM Intranet.
- Shared lessons learned and keys to success.
- Briefed top management about individual and partner progress.
- Conducted scoping that was needed between the EMS program and the regulatory program to ensure that there was a cooperative, supportive effort that could ripen without compromising the regulatory process.

KEYS TO SUCCESS:

- Openness and transparency of all participants.
- High level of interest and commitment from each participant.
- Support from top level management from each partner.
- Sufficient time given from busy schedules to mature and ripen relationships.
- Everyone had a foundation in EMS: common language, common understanding of a system approach for problem solving and decision making.
- Shared environmental values and the desire to move ahead progressively.
- Facilitation, scheduling by a neutral EMS experienced organization.
- Password protected Intranet site facilitated document and information sharing, partner communication.
- Program name, logo, and tailored Intranet site helped to gel the partnership concept and create an entity.

PART 2: ESTABLISHING AND IMPLEMENTING EMS PROGRAM OBJECTIVES

DRIVERS:

- A strong desire exists to measure, monitor and quantify benefits.
- A need to test the EMS to deal with operational issues such as fleet maintenance waste, green purchasing, plastics recycling, stakeholder involvement.
- A need to assure that “mission readiness” for each organization was supported at a high level.
- Through communications, achievement of expedited permit and other regulatory and non-regulatory processes, while ensuring early public participation.
- Management becomes more involved and thereby recognizes the benefits of the process more readily.

- Return on the investment was significant.
- Outreach to other areas in Virginia, as well as to key environmental contacts in other states to identify the potential of the program for stakeholder involvement and building partner trust and relationships.
- Use of local EMS resources (VA TECH/COTA, a PEER Center support group)
- Presentations and other background materials leveraged, and knowledge gained from each others' experiences regarding outreach activities.
- Joint presentations by partners displayed the unique nature of the regional inter-governmental (federal, state, county, and municipal) coordination and action.

ACTIVITIES IN THIS PHASE:

- Partner meetings were held at VA TECH/COTA and Chesterfield County.
- Joint presentations were made at ECOS, Commissions, Boards, and Management meeting (for more specific information see www.peercenter.net).
- City of Richmond used PEER Center list serve (www.peercenter.net) to contact 300 EMS practitioners about BMP for disposing of automobile gasoline tanks. Over 30 responses were received nationally within first 24 hours.
- DSCR used PEER Center list serve (www.peercenter.net) to contact 300 EMS practitioners about BMP for green purchasing and plastics recycling and received excellent feedback.
- Each partner posted EMS documentation (system procedures, significance criteria, Os and Ts, training material on the Intranet site).
- Partners developed individual and joint metrics (see Appendix B) as well as short-term program goals and long-term environmental strategies for expanding the partnership to include regional issues.
- Virginia personnel provided strong leadership in promoting awareness, understanding and interest in the V-REMS program in the Commonwealth and nationally.
- Contacts were made with U.S. EPA regulators to share lessons learned and keys to success, and to identify potential next steps.
- Meetings with stakeholders (citizen groups, advisory boards) were held.
- Stakeholders developed a long term focus and scope of how the partnership could evolve, including issues involving James River, regional air quality, Chesapeake Bay issues.
- Contacts were made with other VA municipalities, counties, and DoD installations (City of Hopewell, Fort Lee, Albemarle County).
- Links were made to other VA EMS practitioners in other national programs (EPA EMS for Public Entities; EPA/AAPA EMS for Ports).
- Continuous debriefs were provided to senior management at DEQ and DSCR.

KEYS TO SUCCESS:

- The process was respectful of the individual needs of each organization, and of time and resource constraints. Each organization witnessed individual benefits as well as its contribution to the collective good.

- The continuing interest, support (including financial support), and guidance from CEQ and DoD Headquarters provided motivation, accountability, and continued commitment to the replicability of the V-REMS program.
- Each partner was willing to step up at various times throughout the V-REMS program and lead various activities. This is a tribute not only to their individual dedication as public servants, but also to their individual skills as leaders and managers.
- DSCR's continued strong interest to help share the resource load and commitment beyond the initial program 9-month deadline provided mid-program motivation. There was no wind-down; in fact, partners were charged to move forward realizing how much could be accomplished in future phases, given the achievements of the previous nine months.
- A neutral contractor will continue to provide facilitation, schedule management, documentation support, and technical EMS assistance.

PART 3: NEXT STEPS

- Project support provided for two additional years. That is, based on the positive benefits achieved from the partnership to date, DSCR is providing funding support for an additional two years.
- Founding partner base to be expanded with new VREM partners added from around the Commonwealth.
- Leadership committee to be established, with first meeting scheduled for early 2004.
- Consideration and planning are underway for a Commonwealth-wide workshop involving public entities. Partners are interested in establishing long-term environmental and stakeholder goals as part of the V-REMS process. Using the V-REMS model and the EMS process, the group will identify regional environmental issues, prioritize those that could have the most significant impacts, establish performance improvement objectives, and identify individual targets to which each partner organization might commit. It is the intent to replicate the phases of the original V-REMS program to build trust, develop communication channels, ensure transparency of information, identify common principles leverage resources and individual skills to meet broad environmental and stakeholder objectives.
- Quantitative metrics to monitor, measure, report and disseminate information are created.
- Metrics for each new goal are established.
- Continued and frequent outreach with stakeholders occurs.
- This program is integrated with other national EMS programs.
- Focused outreach to national planning organizations occurs.
- Final Report is published and posted on PEER Center website (www.peercenter.net) and on individual partner websites.
- Outreach is provided to other defense bases on ways in which the V-REMS partnership can be useful to other Federal Facility and gateway communities.

APPENDIX B

V-REMS PERFORMANCE INDICATOR WORKSHEET					
EMS Milestones and Benefits		**VA DEQ**	**DSCR**	**Chesterfield County**	**City of Richmond**
Identify what each organization has completed in its individual EMS development and implementation		Completed EMS	System complete up to the point of pursuing, via documented EMPs, four Objectives and Targets based on the significance review of our environmental aspects.	The initial two fence lines identified for EMS implementation are the Fleet Mgt. and Utilities-Proctor's Creek WWTP. These groups have essentially completed 12 of the 17 EMS required elements.	*environmental policy *identified aspects *objectives & targets *EMP *Structure/Respon. *EMS documentation *training, awareness *communication
Post document samples from each milestone on the VPO		http://www.deq.state.va.us/ems/	All available DSCR EMS documents have been posted.	All completed EMS documents are available upon request.	EMS documents will be posted on VPO
Identify organizational benefits and "low hanging fruit" quarterly		Energy Use Reduction; Water Use Reduction; Use of Tele/Video Conference - vehicle miles traveled reduced. Annual Report:	Reduced sulfur emissions from 100 tons to 7. Purchased fleet of twelve electric vehicles. Will change out conventionally fueled vehicles. Inspected by Commonwealth of Virginia for RCRA compliance on August 21. One minor bookkeeping deficiency.	Through the discussions on used oil and waste oil handling, a project is being investigated to install heating boilers that burn waste oil. Many good safety ideas have been brought forward in the development of the EMS (i.e.: posted gas fueling procedures at pump stations)	*removed (2) 1,000 gal. UST and installed (1) 500 gal. AST *installed 2 oil/water separators to catch runoff from the shop floor *switched to environ. friendly parts washer solution

EMS Milestones and Benefits	VA DEQ	DSCR	Chesterfield County	City of Richmond
Share EMS tools and materials	Yes: http://www.deq.state.va.us/ems/	Willing to share DSCR Key Messages training information.	All completed EMS documents are available upon request.	discussion with DSCR
Internal & External Outreach				
Increase # of employee training and awareness sessions to expand EMS understanding. Increase public and employee communication.	9 Office Training Programs	All 300 DSCR-S employees have received general EMS Awareness training, to include supervisors. EMS Key Message training, taught by the first line supervisors, is beginning.	Training procedure is currently being developed. General EMS awareness training will be given to all new employees. Detailed EMS training will be given to others as program develops.	* EMS printed on t-shirts for automotive maint. employees *bulletin board at fleet maint. *department e-mail environmental tips.
Act as support and mentoring network for each other in the EMS process.	Yes	Hope we have.	Chesterfield County is willing to assist and support others in their EMS development (i.e. V-REMS program)	Contact representatives have been identified and listed
Partnership Benefits				
Short term goals				
Increase partner interactions to share common issues and strategies for problem solving.	Continuous meetings, coordination with assistance and compliance staff	Monthly telephone calls with partners. Quarterly meetings at COTA. Chesterfield County assisting us with DSCR	Monthly telephone calls with partners. Quarterly meetings at COTA in Roanoke, VA.	*communications with DSCR *presentation for DEQ Joint Citizens Board by DSCR & City *monthly conference call

Partnership Benefits	VA DEQ	DSCR	Chesterfield County	City of Richmond
(*Continued from previous Page*) Increase partner interactions to share common issues and strategies for problem solving.		Environmental Fair. City of Richmond assisted us in the V-REMS presentation to DEQ's Regulatory Boards.		
Increase community interactions to promote awareness and understanding of the program. Characterize and document changes in the nature of these interactions	Joint Press Release	Spoke on EMS at two monthly RAB sessions. Prepared and presented V-REMS EMS information at DSCR Community Environmental Fair held on September 15 and at internal DSCR Environmental Fair held on September 16th. Attendees interested and becoming more knowledgeable and receptive.	Participated in DSCR Environmental Fair on September 15, 2003. Briefed the Chesterfield County 9th Annual Pretreatment Award Ceremony on October 29, 2003. Provided briefing to HQ DLA and Field Activities on November 5, 2003. Participated in State/Federal Conference Call On EMSs At Federal Facilities, November 14, 2003. Briefed DSCR Commander and Corporate Board on November 17, 2003	Boulevard Assoc. Boulevard Merchants Jeff Davis Corridor Assoc. City of Richmond employees.

Partnership Benefits	VA DEQ	DSCR	Chesterfield County	City of Richmond
(*Continued from previous Page*) Increase community interactions to promote awareness and understanding of the program. Characterize and document changes in the nature of these interactions			Provided supporting information to DEQ for their brief to Environmental Council Of The States, November 19, 2003.	
Increase presentations to key regional organizations and boards to promote awareness and understanding of the program among key regional leaders	Presentation to 3 Committees of the Environmental Council of the States; RCRA national Conference Session Presentation; Joint Virginia Board (Air, Water, Waste) presentation	Delivered presentation to Commonwealth of Virginia's 3 Regulatory Control Boards on August 26th. Delivered presentation to EPA Region 3 Environmental Colloquium on September 9th. Scheduled to speak on V-REMS at Chesterfield County's P2 Awards Ceremony on September 24th.	Provided EMS development information for DEQ Regulatory Board presentation.	presentation to DEQ Joint Citizen Boards by DSCR and City
Increase # of public communications about EMS published		None external to DSCR to date. Prepared numerous internal DSCR/DLA publications explaining and promoting benefits of EMS and	Preparing article for COTA and peer websites on Fleet Mgt. and Utilities departments.	None at this time.

Partnership Benefits	VA DEQ	DSCR	Chesterfield County	City of Richmond
(*Continued from previous Page*) Increase # of public communications about EMS published		V-REMS.		
Reduce # of incidents and complaints		Other than negative comments from the interviewed public in the press, none to date.	No non-compliance incidents for 2003.	N/A
Long Term Goals				
Form a Regional Leadership Team of regional key contacts to participate in coordinated regional initiatives for environmental improvements. (e.g., James River, Chesapeake Bay, regional grants, coordinated environmentally preferred purchasing, etc.	Made initial contact with Henrico County and the Richmond Regional Planning District Commission	Willing to serve on Regional Leadership Team. Have informally asked the City of Hopewell and Fort Lee to join our EMS partnership. Based on information obtained through the partnership, pursuing the painting of storm and sanitary drain lines on DSCR.		
Hold periodic meetings of the Regional Leadership Team	TBD	Will support.	Have hosted V-REMS meetings and will continue this support role.	

Environmental Benefits	VA DEQ	DSCR	Chesterfield County	City of Richmond
Individual/Partner/ Organizational Benefits				
Air Quality Improvements		Sulfur emissions reduced. Gas consumption and air emissions from vehicles reduced.		
Wastewater Control improvements		Labeling of drains so as to educate the public.	Sharing of ideas for the labeling of storm and sanitary sewer lines.	*recycling of fluorescence tubes * purchase of “green tip” environ. friendly tubes
Solid Waste Improvements				reduction of mercury products in use
Hazardous Waste Improvements				
Energy efficiency	Energy savings at 7 of 8 agency office operations. Electrical energy usage for TRO dropped from 423,744 for the period Aug 2000 through July 2001 as compared to 417,792 for the period Aug 2001 through July 2002.	Reduced fuel usage.		paper recycling aluminum recycling motion sensor lighting in offices

Environmental Benefits		VA DEQ	DSCR	Chesterfield County	City of Richmond
Natural resource savings					increased exterior lighting at faculties
Dollars saved					
Environmental security					
Other…		Water conservation - 15% reduction estimated (actual data not available)	Sharing of ideas for the labeling of storm and sanitary sewer lines.	Set up UST and AST database on GIS system for site identification. Enhanced land acquisition policy to include detailed ESA review to help reduce environmental liability issues.	
Regional Benefits					
Energy Efficient Vehicles Added		The Department acquired one Flex-fuel SUV (Ford Expedition) for field work in 2003, one Toyota Prius in 2002, and purchased 8 Flex-fuel Taurus station wagons (use ethanol or gasoline) in 2001.			
Vehicle Miles Traveled		FY 2003, DEQ traveled 2,455,590 miles FY 2002, DEQ traveled 2,794,912 miles			

Regional Benefits		VA DEQ	DSCR	Chesterfield County	City of Richmond
(*Continued from previous Page*) Vehicle Miles Traveled		FY 2001, DEQ traveled 2,911,989 miles			
Fleet Size Reduction		During this period, the Department reduced its fleet size by 33 vehicles. 19 SUVs, 1 suburban and 3 trucks, and 10 pool vehicles (cars) were taken out of service.			

APPENDIX C

Partner Profiles

Defense Supply Center Richmond

The *Defense Supply Center Richmond* is a 600-acre installation located approximately 12 miles south of Richmond, Virginia. The facility has more than seven million square feet of covered and uncovered storage areas and employs more than 3,000 individuals. The Center's primary mission is to purchase and manage more than 900,000 items in support of America's warfighters. The majority of the items are aviation parts and engines for fighters, bombers, cargo aircraft, and helicopters. The Center also manages chemicals, batteries, bearings, gauges, and maps. In the late 1970s and 1980s, just as the rest of America was becoming aware of the damage being done to the environment for business practices previously considered safe only a few years prior, DSCR also began to examine its operations and practices, and started testing soils and water for potential contamination. In 1987, the Center was placed on the National Priorities List for cleanup. The National Priorities List (NPL) specifies those sites around the country that pose the greatest long term threat to human health and the environment. Placement on the NPL means that DoD must follow the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in remediating the site. This regulation requires that a five step process be followed: Preliminary Assessment, Site Investigation, Remedial Investigation, Feasibility, and Remedial Action. There are currently 13 operable units at the Center at various stages in the process. Currently, the U.S. Army Corps of Engineers, Norfolk District, is directly involved in only two of the units; operable units numbers 8 and 9. The remaining eleven are supported by an environmental contractor.

City of Richmond, Virginia

The *City of Richmond* is home to 197,500 residents. Its Department of Public Works has embarked on an environmental journey to design and implement an Environmental Management System. The facility selected for the pilot program is the Automotive Management Division – Fleet Maintenance. This facility performs maintenance and repairs on the city's automobiles, trucks and equipment. The property at 2901 N. Boulevard was selected as the pilot facility for the program.

Center for Organizational and Technological Advancement (COTA)

Virginia Tech established the Center for Organizational and Technological Advancement (COTA) in 1994 to foster economic development and continuing education initiatives with a special emphasis on connecting university research to the needs of Virginia's industrial, commercial, governmental, academic, and professional organizations. COTA's primary objective is to help Virginia's organizations and individuals compete in an information-driven global economy. COTA projects are administered through University Outreach and International Affairs with assistance from Program Development, an outreach service of Virginia Tech. In 2001, COTA was designated a USEPA EMS (Environmental Management System) LRC (Local Resource Center). COTA is one of seven EPA-designated LRC's nationally. COTA is actively working with 30 local and federal governmental agencies across the U.S. COTA is teaching the ISO 14001 EMS principles to the 30 units of government and is providing direct assistance and technical support for implementation.

Chesterfield County, Virginia

Chesterfield County is home to 278,000 residents. Chesterfield was the first county in Virginia where both the local government and the public school system earned the U.S. Senate Productivity and Quality Award Gold Medallion recognizing excellence in organizational performance. That dedication to excellence transcends county departments, which results in quality public services to both residents and the county's business community. Eight carefully selected strategic goals, including one "to be responsible protectors of the environment," help guide the county toward achieving its mission of excellence in public service. County leadership has provided clear expectations for the Office of Environmental Management. In 2001, county leadership attended several environmental training classes titled, "What You Don't Know CAN Hurt You." These classes detailed the legal and financial consequences of not having an Environmental Management System (EMS) in place. Consequently, in October 2001, the Office of Environmental Management (OEM) was established. The OEM was charged in 2002 to develop and implement a countywide EMS and to manage environmental activities to help ensure environmental compliance. The Office of Environmental Management directs, implements and coordinates the county's Environmental Management Program. The core initiative of this county program is to centralize environmental management activities and records through the development of a countywide EMS. Additionally, the OEM will develop, implement and supervise environmental management practices, training, pollution prevention plans, environmental assessments, remediation projects, and compliance audits. The OEM is supported by an Environmental Management Committee comprised of 27 "environmentally talented" members from countywide operations. One of Chesterfield County's strategic goals is "to be responsible protectors of the environment." The county perceives the EMS as not only a program to meet this strategic goal, but an opportunity to hold itself to a higher standard and to be a leader in environmental stewardship.

Global Environment & Technology Foundation

The Global Environment & Technology Foundation based in Arlington, Virginia provided guidance, facilitation, training and coaching to the agencies and its targeted communities. Since 1997, GETF has coached, trained, facilitated public meetings, and developed materials for more than 40 public entities that have implemented an EMS based on the ISO 14001 international standard.

EMS training and technical assistance has been provided through a program facilitated by the Center for Organizational and Technological Advancement (COTA) at Virginia Tech in Roanoke. COTA is one of seven designated Local Resource Centers for the National Public Entity EMS (PEER) Resource Center and promotes EMS competence and encourages government to government sharing and mentoring.

The National Public Entity EMS Resource (PEER) Center serves as a one-stop shop for EMS information and resources for public organizations. Local, county and state governments that are developing and implementing an EMS find the PEER Center useful to share their knowledge and field experience with others. For more information, see www.peercenter.net.

Virginia Department of Environmental Quality (DEQ)

The *Virginia Department of Environmental Quality (DEQ)* manages the major environmental programs in Virginia. It administers and enforces federal legislation and Commonwealth laws for water quality, air quality, and the management of solid and hazardous waste. The DEQ also operates a number of specialized programs including the Revolving Loan Fund (which makes loans to localities to improve their wastewater treatment facilities), the Chesapeake Bay Program, the Water Quality Improvement Fund Point Source Grant program, the Pollution Prevention Program, and the Toxics Release Inventory program. The DEQ helps to build partnerships on environmental matters among business and industry, local governments, and interested citizens and groups. It has an operating budget of approximately $162 million, including $82 million for construction loans and grants. In Fiscal Year 2000, the DEQ had about 800 full time employees.

APPENDIX D
V-REMS TIMELINE

Forming the Partnership – 3 Months	Implementing – 6 Months	Next Steps – 2 Years
ACTIVITIES • Received funding from CEQ/DoD • Held kickoff meeting in Richmond, VA at DSCR • Established program name and logo** • Defined individual and partnership goals • Conducted and prioritized external stakeholders** • Established a mission statement** • Established a password-protected Intranet site • Developed a one-page fact sheet ** • Issued a joint press release** • Briefed senior management, commissions, boards, citizen groups, advisory boards, etc. • Established schedule for monthly conference calls • Worked together to develop and present PowerPoint presentations** to promote awareness and interest throughout Virginia and nationally • Documented and distributed minutes from monthly conference calls and meetings	**ACTIVITIES** • Shared and posted on the Intranet site EMS documentation, tools, materials and keys to success • Held meetings at VA Tech/COTA (a part of the PEER Center and a Local EMS Resource Center), and at Chesterfield County • Conducted monthly all hands calls • Leveraged partner resources and PEER Center list serve to solve individual environmental problems (safe disposal of used gasoline tanks, green purchasing and plastics recycling) • Developed individual and joint metrics** • Continued outreach with stakeholders, and joint presentations • Continued briefings to senior managers and program sponsors • Provided outreach to other Virginia municipalities, counties and federal facilities • Discussed the potential for using the EMS process and V-REMS partnership for establishing long term goals for regional environmental and stakeholder issues • Prepared and disseminated Final Report	**PROPOSED ACTIVITIES** • Resources have been committed from Federal Facility for up to 2 additional years • Additional interested municipalities, counties and federal facilities are being added to the V-REMS partnership • The next phase workshop has been scheduled for early 2004 • Tentative plans exist to integrate V-REMS partners' meeting with national EMS program meeting in summer 2004 • Interest expressed in communicating and integrating with other EMS programs nationally • Interest expressed in forming a state-wide Leadership Team to guide the development of V-REMS objectives and targets • Focused outreach conducted with local, state and national stakeholders • Focused outreach conducted with national planning organizations
BARRIERS • Insufficient outreach and education provided to community and media in advance of program • Access to and involvement of management • Staff training • Lack of common level of understanding between partners	**BARRIERS** • Management changes (i.e. political appointees) • Potential lack of sufficient time to conduct V-REMS project • Different levels of experience among partners existed at the beginning of project	
KEYS TO SUCCESS • Enthusiasm of partners and their respective management • Openness and transparency among participants • Monthly conference calls to develop partner relationships • Intranet site that facilitates document exchange • Joint work products: mission statement, fact sheet, press release, PowerPoint presentations • Familiarity and engagement in EMS, which provided a common language and process • Facilitation by a neutral organization to manage communication, documents, and schedule	**KEYS TO SUCCESS** • A process that was respectful of the individual needs and goals of each organization, and their time and resource constraints. • Regular and frequent partner communications • Relationship-building • Strong interest in establishing metrics and monitoring V-REMS accomplishments • Each partner led a variety of activities throughout the V-REMS program. • Leadership, enthusiasm and commitment imparted by top management, including the State Department of Environmental Protection • Facilitation by a neutral organization to manage communication, documents, and schedule	

***Sample materials are available at www.peercenter.net*